

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application.

LISTING OF CLAIMS:

1. (Currently Amended) A signal transformer having a primary limb~~(1)~~ and a first secondary limb~~(4)~~, a primary winding~~(2)~~ at least partly enclosing the primary limb~~(1)~~ and a secondary winding~~(6)~~ at least partly enclosing the first secondary limb~~(4)~~ and the primary limb~~(1)~~ being connected to the first secondary limb~~(4)~~, characterized ~~in that~~ wherein $2n + 1$ additional secondary limbs~~(5)~~ are provided, where $n = 0, 1, 2, 3, \dots$, and the additional secondary limbs~~(5)~~ are connected to the primary limb~~(1)~~ and the first secondary limb~~(4)~~, in that at least one secondary winding~~(6)~~ is in each case provided for the additional secondary limbs~~(5)~~ and for the first secondary limb~~(4)~~, the secondary winding~~(6)~~ at least partly enclosing the respective secondary limb ~~(4, 5)~~, and in that a respective control winding~~(3)~~ at least partly encloses a respective secondary limb~~(4, 5)~~.

2. (Currently Amended) The signal transformer as claimed in claim 1, characterized ~~in that~~ wherein there is the same number of secondary limbs ~~(4, 5)~~ on both sides of the primary limb~~(1)~~.

3. (Currently Amended) The signal transformer as claimed in claim 2, ~~characterized in that~~ wherein the distance between respectively adjacent secondary limbs ~~(4, 5)~~ and the distance between the primary limb ~~(1)~~ and a respective secondary limb ~~(4, 5)~~ adjacent to the primary limb ~~(1)~~ are the same.

4. (Currently Amended) The signal transformer as claimed in ~~one of the~~ preceding claims, ~~characterized in that~~ claim 1, wherein the primary winding ~~(2)~~ is designed as a conductor track ~~(8)~~ of a primary winding printed circuit board ~~(7)~~.

5. (Currently Amended) The signal transformer as claimed in claim 4, ~~characterized in that~~ wherein the conductor track ~~(8)~~ of the primary winding printed circuit board ~~(7)~~ is surrounded by an insulating layer.

6. (Currently Amended) The signal transformer as claimed in claim 4 ~~or 5~~, ~~characterized in that~~ wherein the primary winding printed circuit board ~~(7)~~ has an opening ~~(9)~~ for leading through the primary limb ~~(1)~~.

7. (Currently Amended) The signal transformer as claimed in claim 6, ~~characterized in that~~ wherein the conductor track ~~(8)~~ of the primary winding printed circuit board ~~(7)~~ extends around the opening ~~(9)~~ in the board propagation direction of the primary winding printed circuit board ~~(7)~~.

8. (Currently Amended) The signal transformer as claimed in ~~one of the preceding claims, characterized in that~~ claim 1, wherein the or each secondary winding (6) of a secondary limb ~~(4, 5)~~ is in each case designed as a conductor track ~~(8)~~ of a respective secondary winding printed circuit board ~~(10)~~, and ~~in that~~ wherein the control winding ~~(3)~~ of a secondary limb ~~(4, 5)~~ is designed as a conductor track ~~(8)~~ of a control winding printed circuit board ~~(11)~~.

9. (Currently Amended) The signal transformer as claimed in claim 8, ~~characterized in that~~ wherein the conductor track ~~(8)~~ of the secondary winding printed circuit board ~~(10)~~ and the conductor track ~~(8)~~ of the control winding printed circuit board ~~(11)~~ are surrounded by an insulating layer.

10. (Currently Amended) The signal transformer as claimed in claim 8 ~~or 9~~, ~~characterized in that~~ wherein the secondary winding printed circuit board ~~(10)~~ and the control winding printed circuit board ~~(11)~~ have an opening ~~(9)~~ for leading through the respective secondary limb ~~(4, 5)~~.

11. (Currently Amended) The signal transformer as claimed in claim 10, ~~characterized in that~~ wherein the conductor track ~~(8)~~ of the secondary winding printed circuit board ~~(10)~~ extends around the opening ~~(9)~~ in the board propagation direction of the secondary winding printed circuit board ~~(10)~~, and

~~in that~~ wherein the conductor track-(8) of the control winding printed circuit board-(11) extends around the opening-(9) in the board propagation direction of the control winding printed circuit board-(11).

12. (Currently Amended) The signal transformer as claimed in ~~one of claims 1 to 7,~~ characterized in that claim 1, wherein the or each secondary winding-(6) of a secondary limb-(4, 5) and the control winding-(3) of the same secondary limb-(4, 5) are in each case designed as conductor tracks-(8) of a multilayer printed circuit board-(12).

13. (Currently Amended) The signal transformer as claimed in claim 12, ~~characterized in that~~ wherein the multilayer printed circuit board-(12) has an opening-(9) for leading through the secondary limb-(4, 5).

14. (Currently Amended) The signal transformer as claimed in claim 13, ~~characterized in that~~ wherein the conductor tracks-(8) of the multilayer printed circuit board-(12) extend around the opening-(9) in the board propagation direction of the multilayer printed circuit board-(12).

15. (Currently Amended) The signal transformer as claimed in ~~one of claims 1 to 7,~~ characterized in that claim 1, wherein the secondary windings-(6) of the secondary

limbs-(4, 5) and the control windings-(3) of the secondary limbs-(4, 5) are in each case designed as conductor tracks-(8) of a multilayer printed circuit board-(12).

16. (Currently Amended) The signal transformer as claimed in ~~one of claims 1 to 3, characterized in that~~ claim 1, wherein the secondary windings-(6) of the secondary limbs (4, 5) and the control windings-(3) of the secondary limbs-(4, 5) and the primary winding (2) of the primary winding limb-(1) are in each case designed as conductor tracks (8) of a multilayer printed circuit board.

17. (Currently Amended) The signal transformer as claimed in claim 15 ~~or 16, characterized in that~~ wherein the multilayer printed circuit board-(12) has openings-(9) for leading through the respective secondary limbs-(4, 5) and an opening-(9) for leading through the primary limb-(1).

18. (Currently Amended) The signal transformer as claimed in claim 17, ~~characterized in that~~ wherein each conductor track-(8) of the multilayer printed circuit board (12) extends around the associated opening-(9) in the board propagation direction of the multilayer printed circuit board-(12).

19. (Currently Amended) The signal transformer as claimed in ~~one of claims 12 to 18, characterized in that~~ claim 12, wherein the conductor tracks ~~(8)~~ are insulated from one another by insulating layers of the multilayer printed circuit board ~~(12)~~.

20. (Currently Amended) A method for operating a signal transformer as claimed in ~~one of claims 1 to 19~~ claim 1, in which a main flux (Φ_H) is generated in the primary limb ~~(1)~~ by feeding a primary winding signal (S_P) into the primary winding ~~(2)~~, ~~characterized in that~~ wherein a control signal (S_{st}) is fed into at least one control winding ~~(6)~~ in such a way that a control flux is generated in the associated secondary limb ~~(4, 5)~~, and in that a secondary winding signal (S_S) present at the associated secondary winding ~~(4, 5)~~ is influenced by means of the control flux.

21. (Currently Amended) The method as claimed in claim 20, ~~characterized in that~~ wherein the secondary winding signal (S_S) is switched on or off by the control flux.

22. (Currently Amended) A driver circuit for at least one drivable power semiconductor switch, ~~characterized in that~~ wherein the driver circuit has a signal transformer as claimed in ~~one of claims 1 to 20~~ claim 1.

23. (Currently Amended) The driver circuit as claimed in claim 22,
~~characterized in that~~ wherein the signal transformer is connected in between a signal
function generator and at least one drivable power semiconductor switch.